FIFLOW® BTX EFFICACY TESTS

FIFLOW® BTX EFFICACY TESTS ON WRINKLES

Fiflow® products are fully fluorinated perfluorocarbons, which have a high capacity to carry gases, notably Oxygen, Nitrogen and Carbon Dioxide. They are inert materials, and they are not oil soluble or water soluble, hence they create a third phase in emulsions.

BTX Cream

The BTX Cream with 10% of Fiflow® BTX was applied daily for 4 weeks. The wrinkles depth (Delta D) and width (Delta W) were measured every second day. On the day of the measurements, the cream was applied once more in between before and after measurements to notice the immediate results as well.

BTX Velvet Serum

The BTX Serum containing 15% of Fiflow® BTX was applied daily for 4 weeks. The depth and width of the wrinkles were measured every second day. On the day of the measurements, the serum was applied once more in between before and after measurements to notice the immediate results as well.

SEM measurements of the 5th of August 2015:

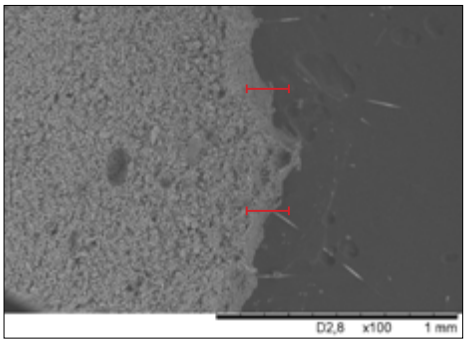
A **scanning electron microscope (SEM)** is a very accurate device. It produces surface topography images of the samples.
SEM provides detailed high-resolution images of the sample by rastering a focused elec- tron beam across the surface and detecting secondary or backscattered electron signal. An **Energy Dispersive X-Ray Analyser, EDX**, is also used to provide elemental identification and quantitative compositional information. This is an ideal technique to analyze the distribution of physical UV-filters in an emulsion or on the skin.

Wrinkle measurement: Assessment protocol

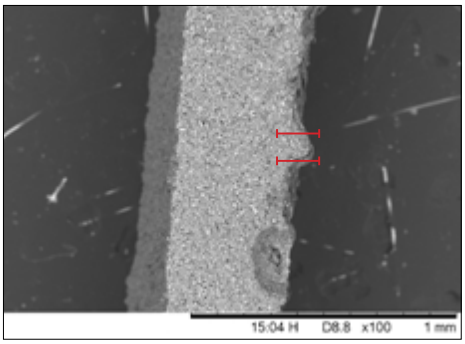
First, a mix of 0,5g of pink polymeric powder and 2g of water creates a paste. The mixture is applied on wrinkles to study. The paste is left 1 minute to dry and the print obtained is removed from the skin. The print is cut very thinly and perpendicularly to the wrinkle to see visibly the wrinkle when it is put on its edge on an adhesive carbon patch.

The sample is then observed with the Scanning Electron Microscope (SEM). The wrinkle depth (Delta D) and width (Delta W) are measured with the HITACHI TM3030 Plus software.
Wrinkle depth and width are measured 5 minutes after product application.

BTX Cream results

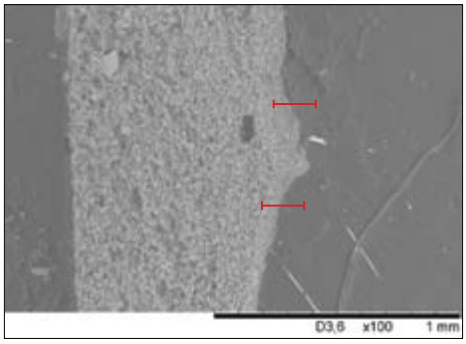


Before application
Wrinkle depth: 158 µm (Delta D)
Wrinkle width: 589 µm (Delta W)

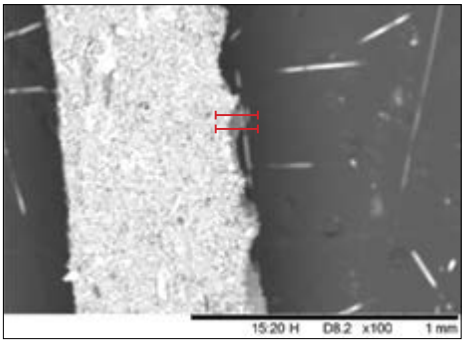


After application
Wrinkle depth: 8,11 µm (Delta D)
Wrinkle width: 48,7 µm (Delta W)

BTX Velvet Serum results



Before application
Wrinkle depth: 128 µm (Delta D)
Wrinkle width: 528 µm (Delta W)



After application
Wrinkle depth: 18,9 µm (Delta D)
Wrinkle width: 59,5 µm (Delta W)

EDAX measurements of the 5th of August 2015:

Principle of the study: The BTX Cream was applied daily on the right eye since the 10th of July 2015, beginning of the test. One measurement was taken every second day. On the day of the measurement, one additional application was performed in order to measure the instant efficacy on the wrinkle.

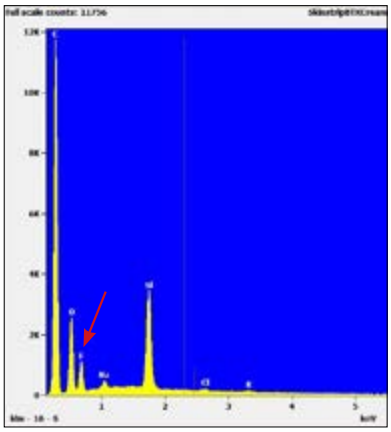
Energy-dispersive X-ray spectroscopy referred to as EDAX, is an x-ray technique used to identify the elemental composition of materials. The data generated by EDAX analysis consists of spectra showing peaks corresponding to the elements making up the true composition of the sample.

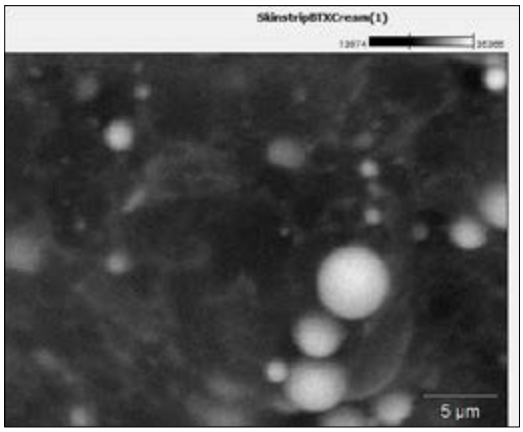
Fiflow® products are fully fluorinated Perfluorocarbons:
Thus, on the skinstrip measurements, only the fluorine chemical elements will be of interest to us.
An adhesive pastille was applied directly on the cream/serum application area in order to take a sample of the skin cellular composition.

BTX Cream results

BTX Cream: 5th of August 2015

Element	Line	Element wt.%		Wt.% Error
C	K	50.98	±	0.32
O	K	27.89	±	0.39
F	K	12.27	±	0.22
Na	K	0.96	±	0.04
Si	L	-	±	-
Si	K	7.49	±	0.06
Cl	L	-	±	-
Cl	K	0.22	±	0.02
K	L	-	±	-
K	K	0.19	±	0.02
Total		100.0		



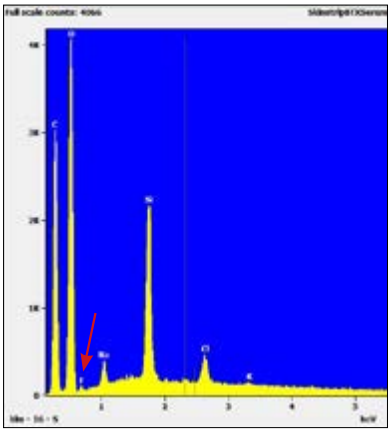


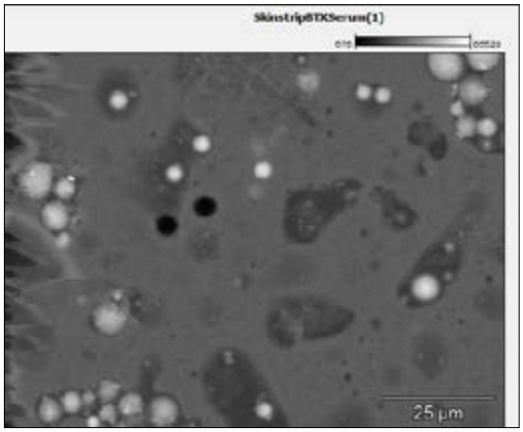
Conclusion: the fluorine chemical element is present at 12,27 +/- 0,22 wt%, it is the third principal element to appear.

BTX Serum results

BTX Serum: 5th of August 2015

Element	Line	Element wt.%		Wt.% Error
C	K	30.45	±	0.24
O	K	55.23	±	0.47
F	K	1.34	±	0.29
Na	K	1.91	±	0.05
Si	L	-	±	-
Si	K	8.97	±	0.09
Cl	L	-	±	-
Cl	K	1.90	±	0.09
K	L	-	±	-
K	K	0.20	±	0.04
Total		100.0		

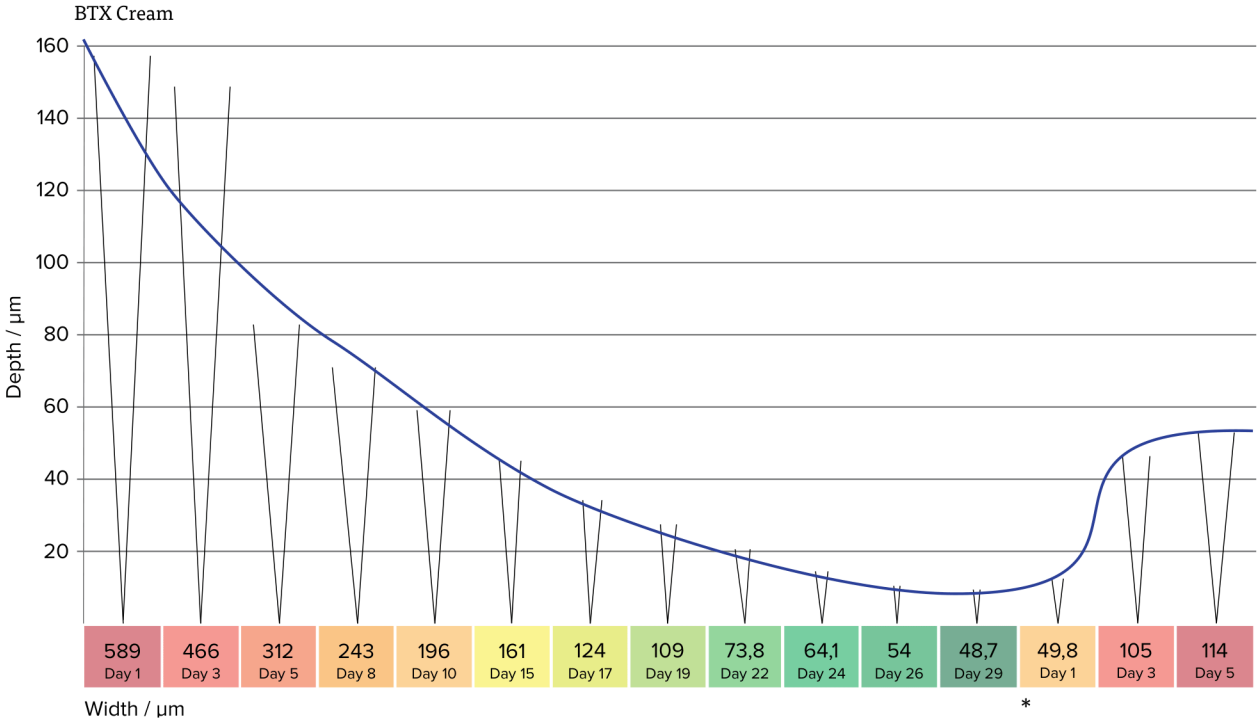




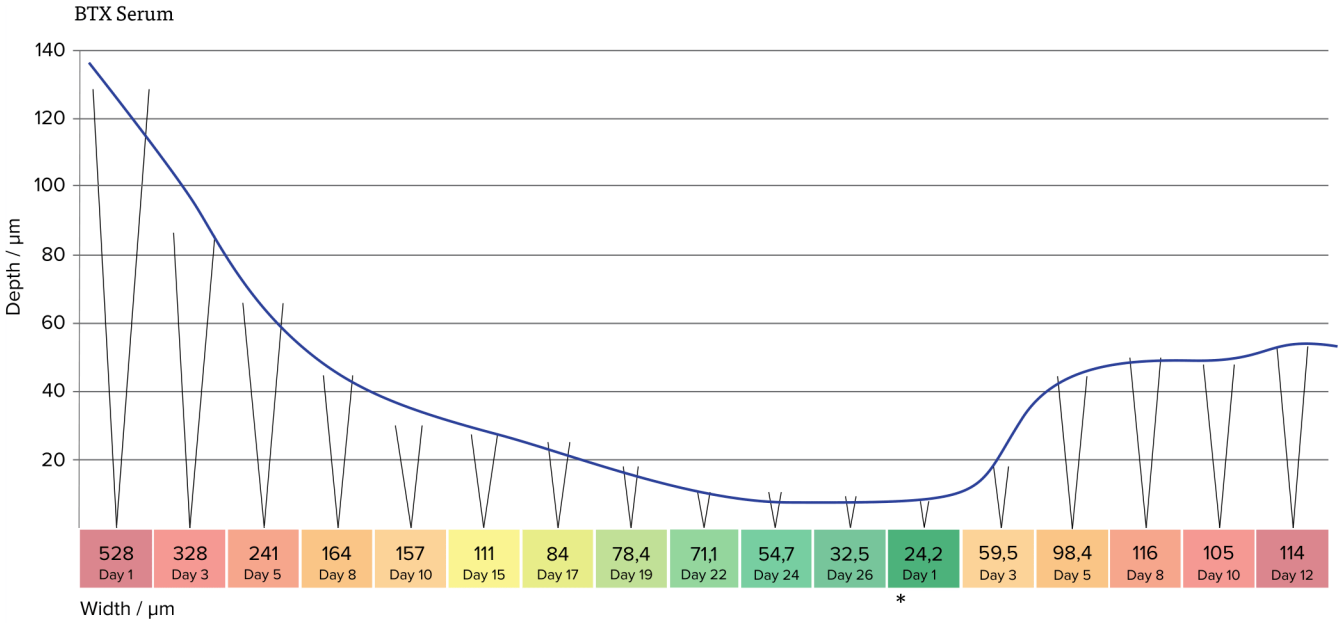
Conclusion: the fluorine chemical element is present at 1,34 +/- 0,29 wt%, it is the third principal element to appear.

Fiflow® BTX *(Perfluorohexane (and) Perfluoroperhydrophenanthrene (and) Perfluorodecalin (and) Perfluorodimethylcyclohexane)* is an ideal ingredient for anti-wrinkle products as it has an instantaneous dermal filling and muscular relaxation effect. It also has long-term effects due to its capacity to supply Oxygen to the skin. Fiflow® BTX has such molecular weight that its penetration is optimised for anti-wrinkle products, on wrinkles, collagen and blood flow.

Efficacy of Fiflow® BTX is tested in 10 % concentration in a BTX Cream and BTX Serum. BTX Cream and BTX Serum was applied on the eye corner daily during 4 weeks. The graph demonstrates the decrease of the depth and the width of the wrinkle while using the BTX Cream and BTX Serum, when the application was stopped the wrinkles increased.



* The application of the BTX Cream was stopped.



* The application of the BTX Serum was stopped.